Listing of Claims:

1. - 20. (Canceled)

21. (Previously Presented) A method of converting heat energy generated in an evaporator to mechanical energy by expanding an evaporated working fluid comprising the steps of:

evaporating a working fluid in the evaporator; and

expanding the evaporated working fluid in a low-pressure expansion device, wherein the low-pressure expansion device is a roots blower having triple blade rotors arranged and dimensioned so that the working fluid is expanded therein and heat energy is transformed to mechanical energy.

22. (Previously Presented) The method of claim 21, further comprising the step of condensing the expanded working fluid in a heat exchanger.

23. (Previously Presented) The method of claim 22, wherein said step of condensing further comprises injecting at least a portion of the condensed working fluid into the roots blower during the expansion of further working fluid.

24. (Previously Presented) The method of claim 23, wherein at least a portion of the injected working fluid condenses a portion of the evaporated working fluid in the roots blower due to heat exchange, thereby reducing an output pressure of the roots blower.

25. (Previously Presented) The method of claim 23, wherein the injected working fluid is pressure-controlled during said step of injecting.

26. (Previously Presented) The method of claim 22, further comprising the step of feeding the condensed working fluid into the evaporator using a pump.

27. (Previously Presented) The method of claim 22, further comprising the step of extracting a portion of the condensed working fluid for injection into the roots blower using a separator arranged downstream of the heat exchanger.

28. (Previously Presented) The method of claim 21, wherein the working fluid is a mixture including first and second components, the method further comprising absorbing, by an absorption fluid, the first component of the working fluid in or downstream of the low-pressure expansion device, and transferring heat to the second component during said step of absorbing, the heat being recyclable.

29. (Previously Presented) The method of claim 28, wherein the mixture forms an azeotropic mixture having a minimum boiling point at a certain mixing ratio of the components.

30. (Previously Presented) The method of claim 28, wherein the working fluid is an azeotropic mixture or a nearly azeotropic mixture.

31. (Previously Presented) The method of claim 28, wherein the heat transferred during absorption heats the second component to a temperature above the boiling point of the mixture, and wherein the second component is condensed in a heat exchanger.

32. (Previously Presented) The method of claim 28, wherein the absorption fluid is a reversibly immobilizable solvent which, in a non-immobilized aggregate state, is the first component of the working fluid.

33. (Previously Presented) The method of claim 21, wherein the working fluid is an azeotropic mixture of water and silicone.

34. (Previously Presented) The method of claim 28, wherein the absorption fluid is a silicate solution.

35. (Previously Presented) An expansion device for converting heat energy to mechanical energy by expanding an evaporated working fluid received from an evaporator, said expansion device comprising a low-pressure expansion device designed as a roots blower having triple blade rotors, and arranged and dimensioned for expanding an evaporated working fluid received from the evaporator and thereby converting heat energy to mechanical energy.

36. (Previously Presented) The expansion device of claim 35, further comprising a generator coupled to said roots blower.

37. (Previously Presented) The expansion device of claim 35, wherein said roots blower includes at least one injection opening.

38. (Previously Presented) The expansion device of claim 35, wherein said roots blower has multi-blade rotors.

39. (Previously Presented) A system for converting heat energy to mechanical energy by expanding an evaporated working fluid, comprising:

an evaporator evaporating a working fluid; and

an expansion device comprising a roots blower having triple blade rotors connected for receiving the evaporated working fluid from said evaporator, said expansion device expanding the evaporated working fluid and converting heat energy generated in the evaporator to mechanical energy.

40. (Previously Presented) The system of claim 39, further comprising a heat exchanger arranged downstream of said expansion device for condensing the expanded working fluid.